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To: Mary Sutter

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Coments on "Draft Final Focused Remedial Investigation Work Plan" IR Site 1, Aug. 20, 2001.
DCN: FWSD-RAC II-01-0299

The Work Plan focuses on the investigation of surface ordnance and explosives and the seismic stability of the bayside dike system. Major areas of general concern are as follows:

- Stability and integrity of the top cap
- Possible destabilization of the bayside dike system due to future dredging of materials offshore. Maintaining the integrity of the dikes may require placing institutional restraints to prevent compromising the dikes by dredging operations associated with future expansions of the San Francisco and Oakland airports andenlarging shipping channels by the Port of Oakland.
- Future public hazards posed by unexploded ordnance and explosives which may be left in place below the surface of the landfill after closure.
- Possible public dangers and/or damage to surface vegetation from the release of vinyl chloride, methane or other noxious gases if the integrity of the top cap is damaged by differential subsidence, liquefaction or penetration of the topcap by burrowing rodents, such as ground squirrels.
- If World War I destroyers were sunk to form part of the dike system, drilling could release oil from these buried ships. (This happened on Bay Farm Island when borings were made for pilings to support new school buildings).

In addition to the above general comments, the following specific comments are offered:

1. Bulletin 154, "Geologic Guidebook of the San Francisco Bay Counties", State of California, Department of Natural Resources, 1951 contains information which may be useful to the investigators. Figure 14, page 90 of the report shows a cross section of the Bay between San Francisco and Alameda based on drill holes along the line of the once-proposed "southern crossing".

2. Pacific Aerial Surveys in Oakland has archives of aerial photographs of the east bay taken over a number of years. These may show the developmental history of the Site 1 landfill.

3. Executive Summary, page ii, identifies jack rabbits as the dominant animal species. Are there ground squirrels present either in the vegetative cover at Site 1 or in rip-rap material along the perimeter dikes? The writer has observed numerous ground squirrels along the dikes at Bay Farm Island and at the landfill (Mt. Trashmore) at Dolittle and Island Drives. Also at the former Galbraith golf course near the Oakland airport, the ground squirrels had burrowed through the top cap and turf grass to expose the old landfill material beneath the surface. There also may be burrowing owls present. These were once present in large numbers at the Oakland airport and on Bay Farm Island before development encroached on their habitat.

4. Section 1.2.2 Geotechnical Evaluation, page 1-4, states that settlement of the existing soil cover and new fill material will be considered. However, most of the borings and cone penetrometer tests will be taken around the shoreline boundaries of the site (see Figure 4-2). Several of the proposed test pits will be taken in the interior of the landfill, but not in sufficient places to reveal heterogenities in the waste fill which might cause differential settlement. If the waste material were homogeneous, any settlement might be more or less uniform across the site due to surface loading from the cap and golf course fill. Uniform settlement would not necessarily compromise the integrity of the top cap. However, differential settlement could occur at the boundaries between dissimilar fill materials due to the added surface loading or due to liquefaction caused by a seismic event. Examples of damage caused by liquefaction of heterogenous fill materials are the Marina District in San Francisco and the Cypress freeway in Oakland as a result of the Loma Prieta Earthquake. Rupture of the top cap could cause intrusion into the landfill of surface water or water from ruptured irrigation pipes. Also, failure could release methane and/or vinyl chloride gases to the surface endangering golfers, maintenance crews and damaging turf grasses. Rupture of the top cap would be hard to detect because of the golf course on top of the landfill. Seismic analyses should include the weight of material to be placed on top. This will require coordination with the City and the golf course architects

5. Page 1-6 states that the site "design earthquake" will be based on design criteria supplied by the Navy. What are these criteria? The same criteria could be used as for the design of the new western section of the Bay Bridge.

6. Where were the 335 live 20 mm projectiles found? The Executive Summary (page ii) says they were found adjacent to Site 1, whereas page 2-3 implies that they were discovered within Site 1.

7. Section 1.2.1, "OEW Investigation " (page 1-3) states that the Ordnance and Explosives Waste (OEW) investigation will be conducted only on the surface. The Executive Summary (page ii) says that a geophysical survey of the pistol range found anomalies not indicative of buried OEW, but consistent with metal debris. Wouldn't OEW be considered a type of metal debris? Was all of Site 1 surveyed for buried OEW? The implication is that only the pistol range was surveyed. If buried OEW exists anywhere within Site 1 it could pose a serious risk to future users of the site. Could ground penetrating radar or other geophysical techniques be used to find any buried OEW?

8. Section 1.2.1, "OEW Investigation", page 1-3 states that the OEW investigation will identify the most probable munition (MPM). However, Section 2.6 "Summary of OEW Risk" has already concluded that the MPM is a 20-mm high-explosive projectile.

The following minor comments are offered:

1. Figure 1-1, Alameda is misspelled in the title box.

2. Page 1-5, first paragraph " this data" should be these data.

3. Figure 4-3, "Merrit" sand should be"Merritt" sand.

4. Table 3-1, Brad Job has resigned from his position with the RWQCB.

Comments on: "Draft Site Specific Health and Safety Plan" Revision 0, March, 2001 Alameda Point Alameda, DCN:FWSD-RAC II-01-0097 "

This Health and Safety (H&S) Plan covers both IR Sites 1 and 2. The main deficiency of the H & S plan is its failure to identify vinyl chloride as a chemical of concern. No Material Safety Data Sheet is included in Attachment 1 for vinyl chloride. Also, the selection of personal protective equipment (PPE) in Table 2. does not seem to take into account the possible presence of vinyl chloride during cone penetrometer tests, drilling and test excavation. It would appear prudent to provide self-contained breathing apparatus until monitoring has shown the concentrations to be below the PEL's(1 ppm for vinyl chloride). Solvents were disposed of into both IR Sites 1 and 2. Vinyl chloride is present as a degradation product of trichloroethylene (see RAB minutes of August 7, 2001 page 5 Of 6). Vinyl chloride is a Group A known human carcinogen. No chemical analyses are planned for the focused RI of Site (see Executive Summary of the focused Work Plan, page iii). Laboratory personnel examining core samples and conducting geotechnical tests could be at risk unless apprised of the potential chemical hazard.

Specific Comments:

1. Page 1-1, Section 1.3 refers to the "artillery range". Shouldn't this be "pistol range?

2. Page 4-1, Section 4.2 "Environmental Hazards", first paragraph discusses snakes taking from the "desert heat". Perhaps this section was adapted from another site location.

3. Page 4-5, Section 4.5.1, "Recommended Safe Work Practices for Range Residue Removal", states that the use of cellular phones and radios will be controlled within Sites 1 and 2. If buriedUXO is present in either IR Site 1 or 2, wouldn't there be a risk to future site users such as golfers, course maintenance workers or other members of the publicfrom detonations initiated by cell phones, cell phone relay stations, keyless car entry devices, etc.

4. Attachment 2, "Activity Hazard Analyses", does not appear to cover Bathymetric Surveys; however, "Sample Retrieval and Handling" page 3of 3 covers some of these activities.

5. Figure 3, it would be helpful if the map showed the route to the Alameda Hospital, rather than having the address in a box. Also, shouldn't the Concentra Medical center be identified as a clinic?

Minor Comments:

1. Abbreviations and acronyms, pages iv and v , many are missing such as PEL/TLV , STEL, CNS, PFD, AEDA and ESQD. Also under "PID" the end of the definition "Project Mamager (PjM) " appears to belong on the next line.

2. Table 1, "Chemical Hazards assessment" page 1 Of 2, under "Benzene" it should read "severe exposure" not " sever exposure".